

2011 City Drinking Water Quality Report

Definitions

Public Health Goal (PHG)

The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.

Maximum Contaminant Level Goal (MCLG)

The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency.

Maximum Contaminant Level (MCL)

The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.

Maximum Residual Disinfectant Level Goal (MRDLG)

The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Maximum Residual Disinfectant Level (MRDL)

The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Regulatory Action Level (AL)

The concentration of a contaminant which, if exceeded, triggers a treatment or other requirements which a water system must follow.

Treatment Technique (TT)

A required process intended to reduce the level of contaminants in drinking water.

Primary Drinking Water Standards (PDWS)

MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements and water treatment requirements.

Secondary Drinking Water Standards (SDWS)

MCLs for contaminants that affect taste, odor, or appearance of drinking water. Contaminants with SDWS do not affect the health at MCL levels.

Notification Level (NL)

Notification levels are health-based levels established by CDPH for chemicals in drinking water that lack MCLs.

Legend

mg/L :	milligrams per liter (parts per million)
µg/L:	micrograms per liter (parts per billion)
µmhos/cm:	micromhos per centimeter
pCi/L :	picoCuries per liter (a measure of radioactivity)
ND:	Not Detected at testing limit
NA:	Not Applicable
NTU:	Nephelometric Turbidity Units
DBP:	Disinfection By-products
TOC:	Total Organic Carbon
RAA:	Running Annual Average

PRIMARY STANDARDS

Regulated Contaminants with Primary MCLs or MRDLs

Microbiological Contaminants		MCL	PHG	Highest Single Measurement		Samples ≤0.3 NTU	Major Sources in Drinking Water	
Turbidity (NTU)		TT = 1 NTU TT = 95% of samples ≤0.3 NTU	NA	0.09		100%	Natural river sediment/soil run-off	
Lead/Copper Rule				90th % Value	# of Sites Sampled	# of Sites Exceeding Action Level		
Copper (mg/L)		AL, 1.3	0.3	0.26	31	0	Internal corrosion of household water plumbing systems; erosion of natural deposits; leaching from wood preservatives	
Lead (µg/L)		AL, 15	0.2	2.9	31	0		
Disinfection By-products, Disinfectant Residuals, and Disinfection By-product Precursors				System Wide Average		System Wide Range		
Total Trihalomethanes (µg/L)		80	NA	Highest RAA = 47		1.1 - 83.4	By-product of water disinfection	
Haloacetic Acids (µg/L)		60	NA	Highest RAA = 12		ND - 33	By-product of water disinfection	
Disinfectant - Chlorine as Cl ₂ (mg/L)		MRDL, 4.0	MRDLG, 4	0.68		0.11 - 1.63	Drinking water disinfectant added for treatment	
Control of DBP Precursors - TOC (mg/L)		MCL TT	Public Health Goal NA	Surface Water Average 2.47	Surface Water Range 2.22 - 2.79	Groundwater Average 0.40	Groundwater Range ND - 1.88	Various natural and manmade sources. Total Organic Carbon (TOC) has no health effects. However, it provides a medium for the formation of disinfection by-products.
Radioactive Contaminants								
Gross Alpha Particle Activity (pCi/L)		15	MCLG, 0	ND	NA	1.2	ND - 3.43	Erosion of natural deposits
Uranium (pCi/L)		20	0.43	ND	NA	1.7	ND - 3.9	Erosion of natural deposits
Inorganic Contaminants								
Aluminum (mg/L)		1	0.6	0.05	0.01 - 0.15	0.02	ND - 0.04	Erosion of natural deposits
Arsenic (µg/L)		10	0.004	0.6	ND - 2.0	0.2	ND - 1.2	Erosion of natural deposits
Chromium (µg/L)		50	MCLG, 100	2.5	ND - 6.4	4.5	1.9 - 10.0	Erosion of natural deposits
Fluoride (mg/L)		2.0	1	0.37	0.31 - 0.42	0.33	0.19 - 0.53	Erosion of natural deposits; discharge from fertilizer & aluminum factories
Nitrate as NO ₃ (mg/L)		45	45	ND	NA	7.96	0.62 - 25.1	Erosion of natural deposits; run-off from fertilizer use
Selenium (µg/L)		50	30	ND	NA	1.9	ND - 7.4	Erosion of natural deposits
Volatile Organic Contaminants								
Methyl-tert-butyl ether [MTBE] (µg/L)		13	13	ND	NA	0.9	ND - 4.1	Leaking underground storage tanks; discharge from petroleum and chemical factories

SECONDARY STANDARDS

Aesthetic Standards Established By the State of California, Department of Public Health. No adverse health effects from exceedance of standards.

Regulated Contaminants with Secondary MCLs

	MCL	Public Health Goal	Surface Water Average	Surface Water Range	Groundwater Average	Groundwater Range	
Copper (mg/L)	1.0	NA	0.01	0.01 - 0.02	0.07	0.01 - 0.26	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Iron (µg/L)	300	NA	15	ND - 135	58	ND - 594	Leaching from natural deposits
Manganese (µg/L)	50	NA	ND	NA	65.1	ND - 213	Naturally-occurring organic materials; causes discoloration of water
Threshold Odor Number at 60 °C (units)	3	NA	6	1 - 12	7	1 - 12	Naturally-occurring organic materials
Turbidity, Laboratory (NTU)	5	NA	0.11	0.05 - 0.52	0.36	0.10 - 0.87	Soil run-off
Total Dissolved Solids (mg/L)	1000	NA	608	514 - 710	783	572 - 1086	Run-off / leaching from natural deposits
Specific Conductance (µmhos/cm)	1600	NA	833	729 - 946	1107	806 - 1655	Substances that form ions when in water; seawater influence
Chloride (mg/L)	500	NA	18	13.4 - 20.9	92.9	25.6 - 184	Run-off / leaching from natural deposits; seawater influence
Sulfate (mg/L)	500	NA	239	198 - 280	217	143 - 312	Run-off / leaching from natural deposits
Zinc (mg/L)	5.0	NA	0.01	0.01 - 0.03	0.03	0.01 - 0.06	Run-off / leaching from natural deposits

CONTAMINANTS WITH NO MCLs

i.e. Unregulated Contaminants

Boron (mg/L)	NL, 1	NA	0.39	NA	0.11	0.077 - 0.16	
Hexavalent chromium, Cr VI (µg/L)	NA	NA	0.021	ND - 0.055	0.63	ND - 1.80	
<i>Additional Constituents</i>							
pH (units)		NA	8.07	7.86 - 8.30	6.96	6.68 - 7.66	
Total Hardness as CaCO ₃ (mg/L)		NA	371	326 - 410	465	296 - 666	
Total Alkalinity as CaCO ₃ (mg/L)		NA	193	178 - 210	247	191 - 310	
Calcium (mg/L)		NA	87	76.9 - 93.7	121	82.5 - 158	
Magnesium (mg/L)		NA	38	30.5 - 45.8	40.6	25.9 - 66.0	
Sodium (mg/L)		NA	44	37.7 - 51.4	68.1	41.7 - 100	
Potassium (mg/L)		NA	4.6	2.9 - 19.5	2.08	1.50 - 3.30	
Uranium (µg/L)		NA	ND	NA	5.9	2.8 - 7.5	
Radon 222 (pCi/L)		NA	ND	NA	450	350 - 590	See reporting notice on radon in this report

Note: Listed in the table above are substances detected in the City's drinking water. Not listed are more than 92 regulated and unregulated substances that were below the laboratory detection level.

The state allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old. All data presented in the table above are from 2011, except for the following: Lead and copper monitored at the customer's tap are from 2009, radioactive contaminants are from 2005, 2006, and 2011, and radon 222 is from 2005 and 2010.